

WHAT IS CLAIMED IS:

1. A communications system comprising:

a mobile unit operable to monitor signals received from a plurality of base transceiver stations, to choose one of the base transceiver stations based on the signals, and to request communications from the chosen base transceiver station;

a gateway operable to receive a first packet addressed to the mobile unit, to determine a multicast address associated with the mobile unit, to generate a second packet having information from the first packet and addressed to the multicast address, and to communicate the second packet to a packet network; and

the base transceiver stations, each base transceiver station operable to receive the second packet from the packet network, the chosen base transceiver station operable to communicate information from the second packet to the mobile unit.

2. The communications system of Claim 1, wherein the signals monitored by the mobile unit comprise pilot signals transmitted by the base transceiver stations.

3. The system of Claim 1, wherein the mobile unit and the base transceiver stations implement High Data Rate (HDR) wireless communications protocols.

4. The system of Claim 1, wherein the gateway generates the second packet by readdressing the first packet to the multicast address, and the chosen base transceiver station communicates information by readdressing the second packet to the mobile unit.

5. The system of Claim 1, wherein the gateway is further operable to generate the second packet by encapsulating the first packet as a payload for the second packet, and the chosen base transceiver station extracts the first packet from the second packet and communicates information by transmitting the first packet to the mobile unit.

6. The system of Claim 1, further comprising a roam management module operable to:

monitor wireless links between the mobile unit and the base transceiver stations;

determine that radio link quality for the wireless link between a selected one of the base transceiver stations and the mobile unit has fallen below a threshold; and

withdraw the selected base transceiver station from a multicast group associated with the mobile unit.

7. The system of Claim 6, wherein the roam management module determines that radio link quality for the wireless link between the selected base transceiver station and the mobile unit has fallen below a threshold by determining that a signal strength has fallen below the threshold for a predetermined period of time.

8. The system of Claim 1, further comprising a roam management module operable to:

monitor radio link quality for wireless links between the mobile unit and the base transceiver stations;

determine that radio link quality for the wireless link between a selected one of the base transceiver stations and the mobile unit has exceeded a threshold; and

register the selected base transceiver station with a multicast group associated with the mobile unit.

9. A base transceiver station comprising:

a network interface operable to receive a multicast packet from a packet network, wherein the base transceiver station is a member of a multicast group receiving the multicast packet;

5 a processor operable to determine a mobile unit identified by the multicast packet and to determine whether the mobile unit has chosen the base transceiver station for communications; and

10 the wireless interface operable to communicate information from the multicast packet to the mobile unit if the mobile unit has selected the base transceiver station for communications.

10. The base transceiver station of Claim 9, wherein the wireless interface is further operable to transmit a pilot signal for reception by the mobile unit.

15 11. The base transceiver station of Claim 9, wherein the wireless interface communicates using High Data Rate (HDR) wireless communications protocols.

20 12. The base transceiver station of Claim 9, wherein the processor is further operable to extract a packet encapsulated in the multicast packet, and the wireless interface communicates information by transmitting the extracted packet to the mobile unit.

25 13. The base transceiver station of Claim 9, wherein the processor is further operable to readdress the multicast packet to an Internet protocol (IP) address for the mobile unit.

14. The base transceiver station of Claim 9, wherein the processor is further operable to discard the multicast packet if the mobile unit has chosen a second base transceiver station for communications.

15. The base transceiver station of Claim 9, wherein the processor is further operable to monitor radio link quality for a wireless link with the mobile unit and to withdraw from the multicast group based on the radio link quality.

5 16. The base transceiver station of Claim 9, wherein the processor is further operable to monitor radio link qualities for wireless links with a plurality of mobile units and to register for a multicast group associated with a selected one of the mobile units based on the radio link quality of the wireless link with the selected mobile unit.

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17. A method for processing multicast packet comprising:
determining whether a mobile unit has requested to receive communications
from a base transceiver station, wherein the base transceiver station is a member of a
multicast group associated with the mobile unit;
5 receiving a multicast packet for the multicast group; and
if the mobile unit has requested to receive communications, communicating
information from the multicast packet to the mobile unit.

18. The method of Claim 17, further comprising transmitting a pilot signal
10 from the base transceiver station for reception by the mobile unit.

19. The method of Claim 17, wherein the base transceiver station and the
mobile unit implement High Data Rate (HDR) wireless communications protocols.

20. The method of Claim 17, further comprising, if the mobile unit has
requested to receive communications, extracting a packet encapsulated in the
multicast packet and communicating the extracted packet to the mobile unit.

21. The method of Claim 17, further comprising re-addressing the
20 multicast packet to an Internet protocol (IP) address for the mobile unit.

22. The method of Claim 17, further comprising discarding the multicast
packet if the mobile unit has not requested to receive communications from the base
transceiver station.

23. The method of Claim 17, further comprising monitoring radio link
quality for a wireless link with the mobile unit and withdrawing from the multicast
group associated with the mobile unit based on the radio link quality.

24. The method of Claim 17, further comprising monitoring radio link qualities for wireless links with a plurality of mobile units and registering for a multicast group associated with a selected one of the mobile units based on the radio link quality for the wireless link with the selected mobile unit.

25. Software for processing multicast packet comprising, the software embodied on a computer readable medium and operable to:

determine whether a mobile unit has requested to receive communications from a base transceiver station, wherein the base transceiver station is a member of a
5 multicast group associated with the mobile unit;

receive a multicast packet for the multicast group; and

if the mobile unit has requested to receive communications, communicating information from the multicast packet to the mobile unit.

10 26. The software of Claim 25, further operable to transmit a pilot signal from the base transceiver station for reception by the mobile unit.

27. The software of Claim 25, wherein the base transceiver station and the mobile unit implement High Data Rate (HDR) wireless communications protocols.

15 28. The software of Claim 25, further operable, if the mobile unit has requested to receive communications, to extract a packet encapsulated in the multicast packet and to communicate the extracted packet to the mobile unit.

20 29. The software of Claim 25, further operable to readdress the multicast packet to an Internet protocol (IP) address for the mobile unit.

30 25 30. The software of Claim 25, further operable to discard the multicast packet if the mobile unit has not requested to receive communications from the base transceiver station.

31. The software of Claim 25, further operable to monitor radio link quality for a wireless link with the mobile unit and to withdraw from the multicast group associated with the mobile unit based on the radio link quality.

32. The software of Claim 25, further operable to monitor radio link qualities for wireless links with a plurality of mobile units and to register for a multicast group associated with a selected one of the mobile units based on the radio link quality for the wireless link with the selected mobile unit.

33. A base transceiver station comprising:

means for determining whether a mobile unit has requested to receive communications from the base transceiver station, wherein the base transceiver station is a member of a multicast group associated with the mobile unit;

5 means for receiving a multicast packet for the multicast group; and

means for, if the mobile unit has requested to receive communications, communicating information from the multicast packet to the mobile unit.

34. The base transceiver station of Claim 33, further comprising means for
10 transmitting a pilot signal for reception by the mobile unit.

35. The base transceiver station of Claim 33, further comprising means for implementing High Data Rate (HDR) wireless communications protocols.

15 36. The base transceiver station of Claim 33, further comprising means for, if the mobile unit has requested to receive communications, extracting a packet encapsulated in the multicast packet and communicating the extracted packet to the mobile unit.

20 37. The base transceiver station of Claim 33, further comprising means for re-addressing the multicast packet to an Internet protocol (IP) address for the mobile unit.

25 38. The base transceiver station of Claim 33, further comprising means for discarding the multicast packet if the mobile unit has not requested to receive communications from the base transceiver station.

30 39. The base transceiver station of Claim 33, further comprising monitoring radio link quality for a wireless link with the mobile unit and means for withdrawing from the multicast group associated with the mobile unit based on the radio link quality.

40. The base transceiver station of Claim 33, further comprising means for monitoring radio link qualities for wireless links with a plurality of mobile units and means for registering for a multicast group associated with a selected one of the
- 5 mobile units based on the radio link quality for the wireless link with the selected mobile unit.